FIG. 1 Prior Art: Wavelet Tiling of an N-Point Digital t-f Space

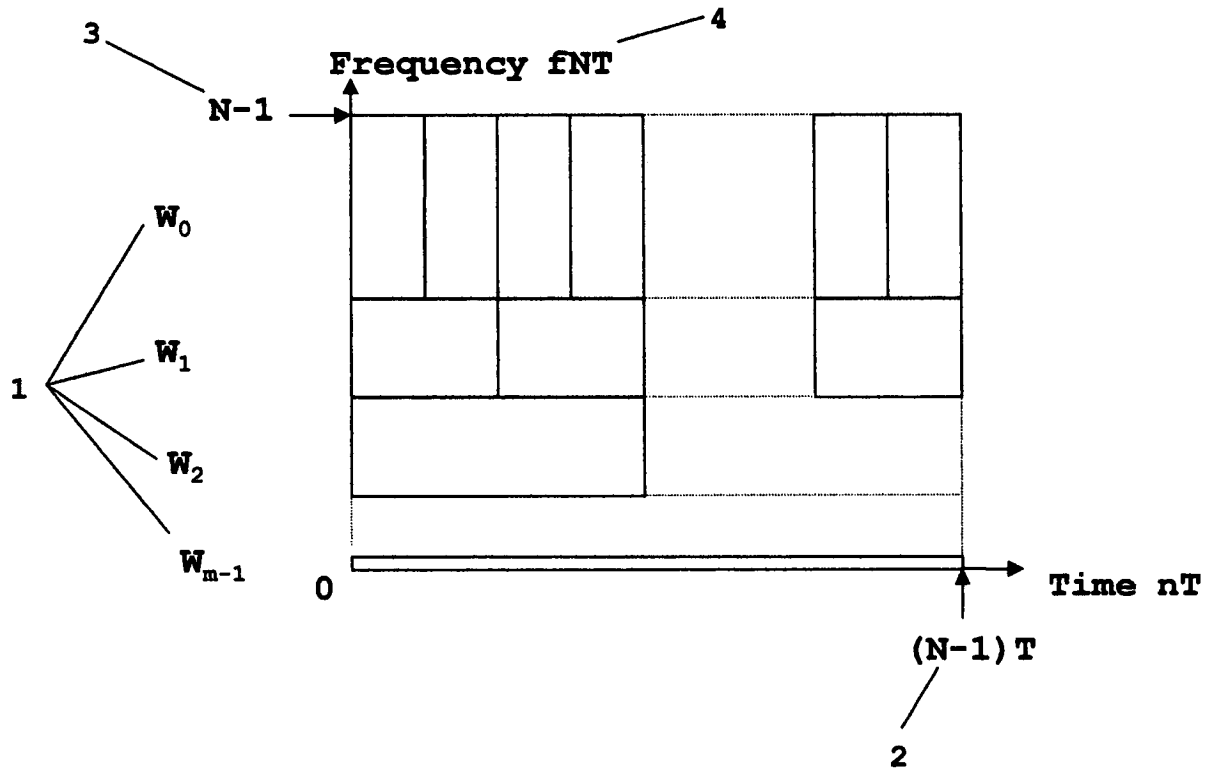


FIG. 2 Prior Art: Wavelet Iterated Filter Bank for Tiling t-f Space in FIG. 1

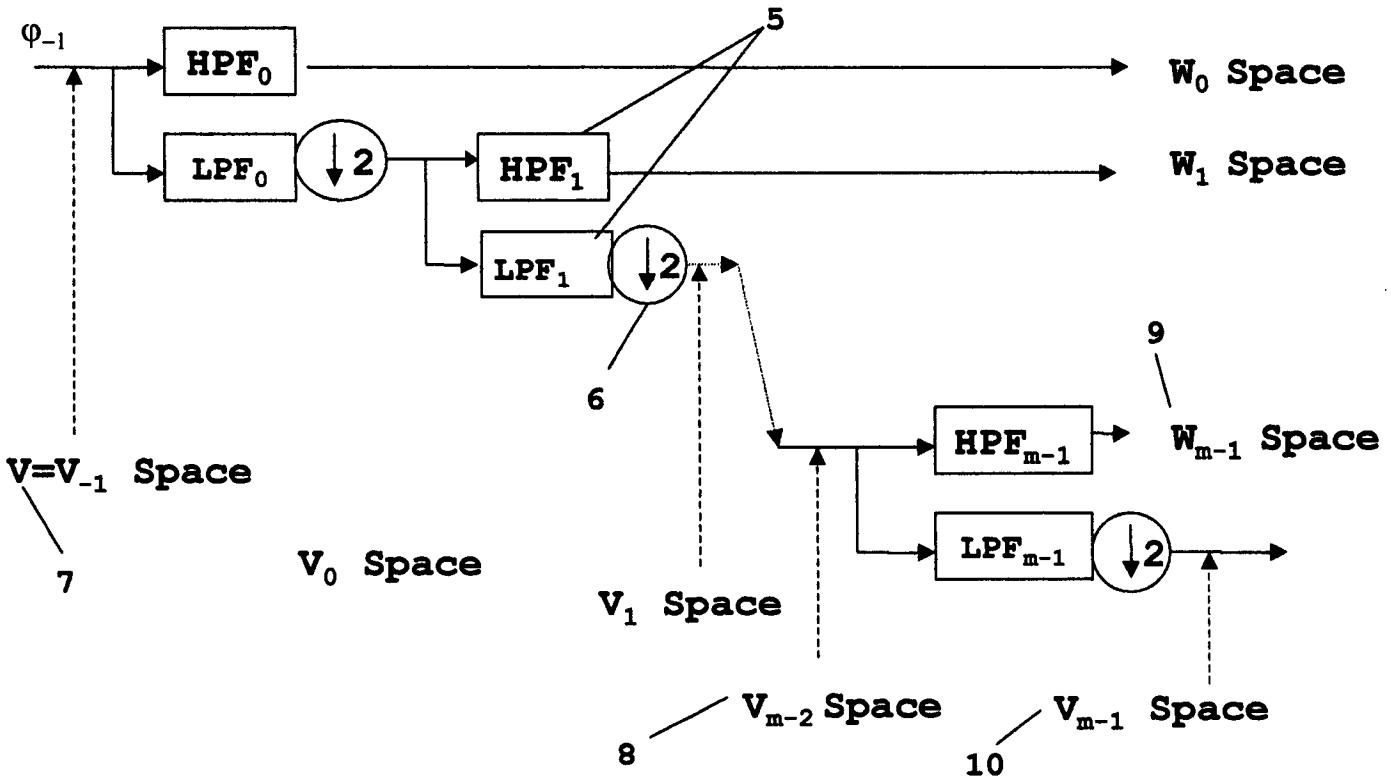


FIG. 3 PSD Requirements for Communications

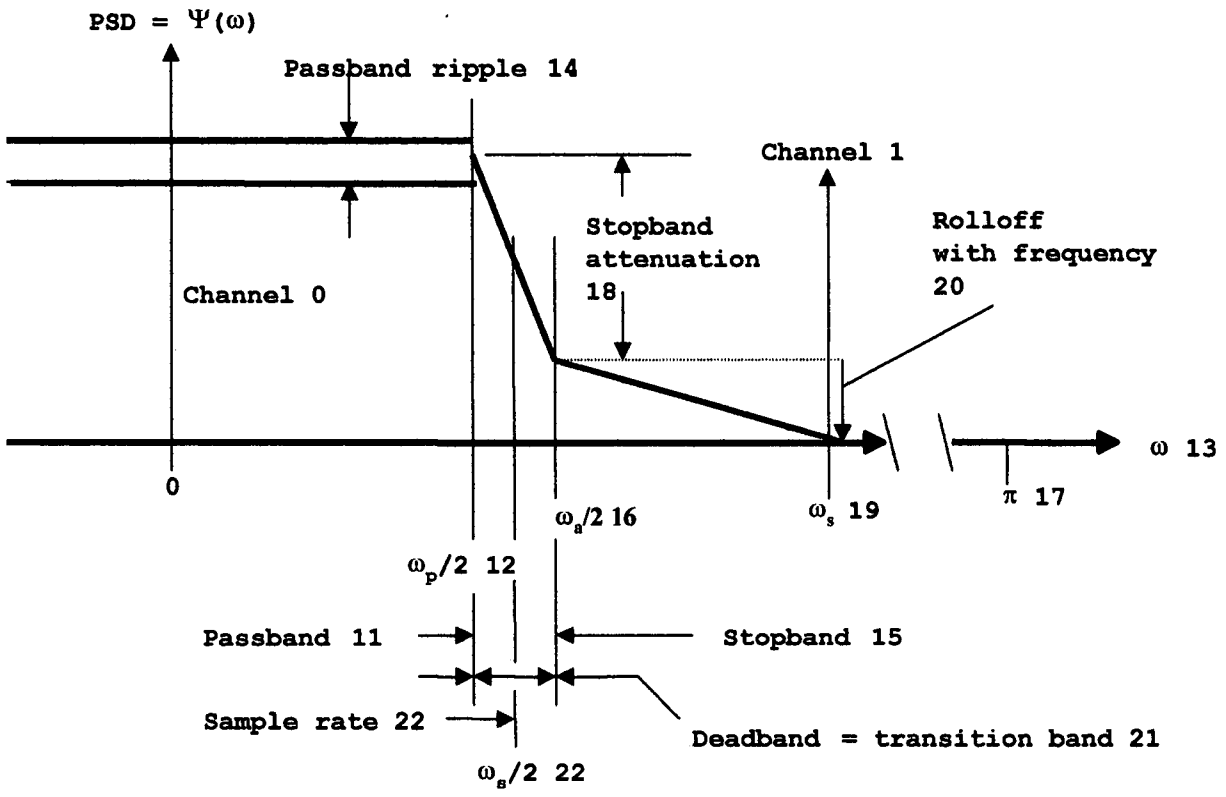


FIG. 4 LS Metrics and Cost Function

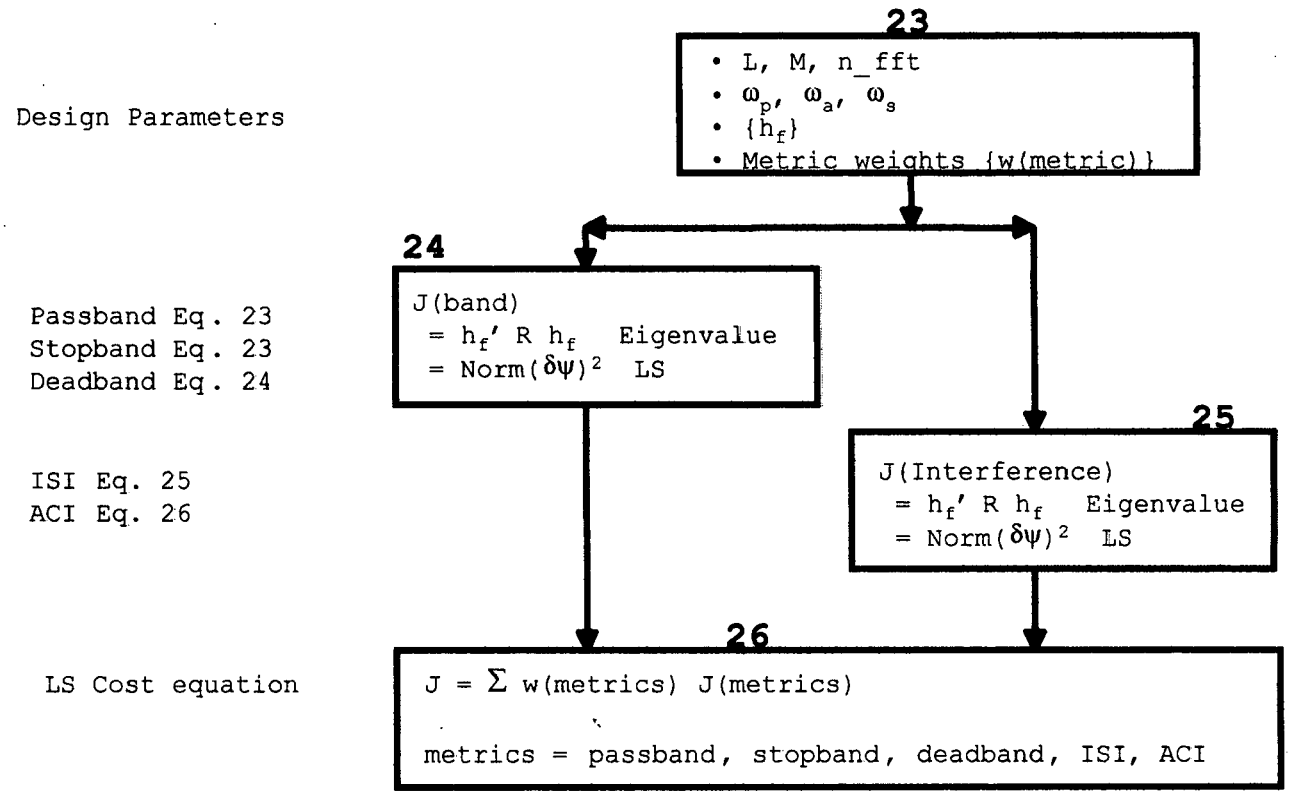
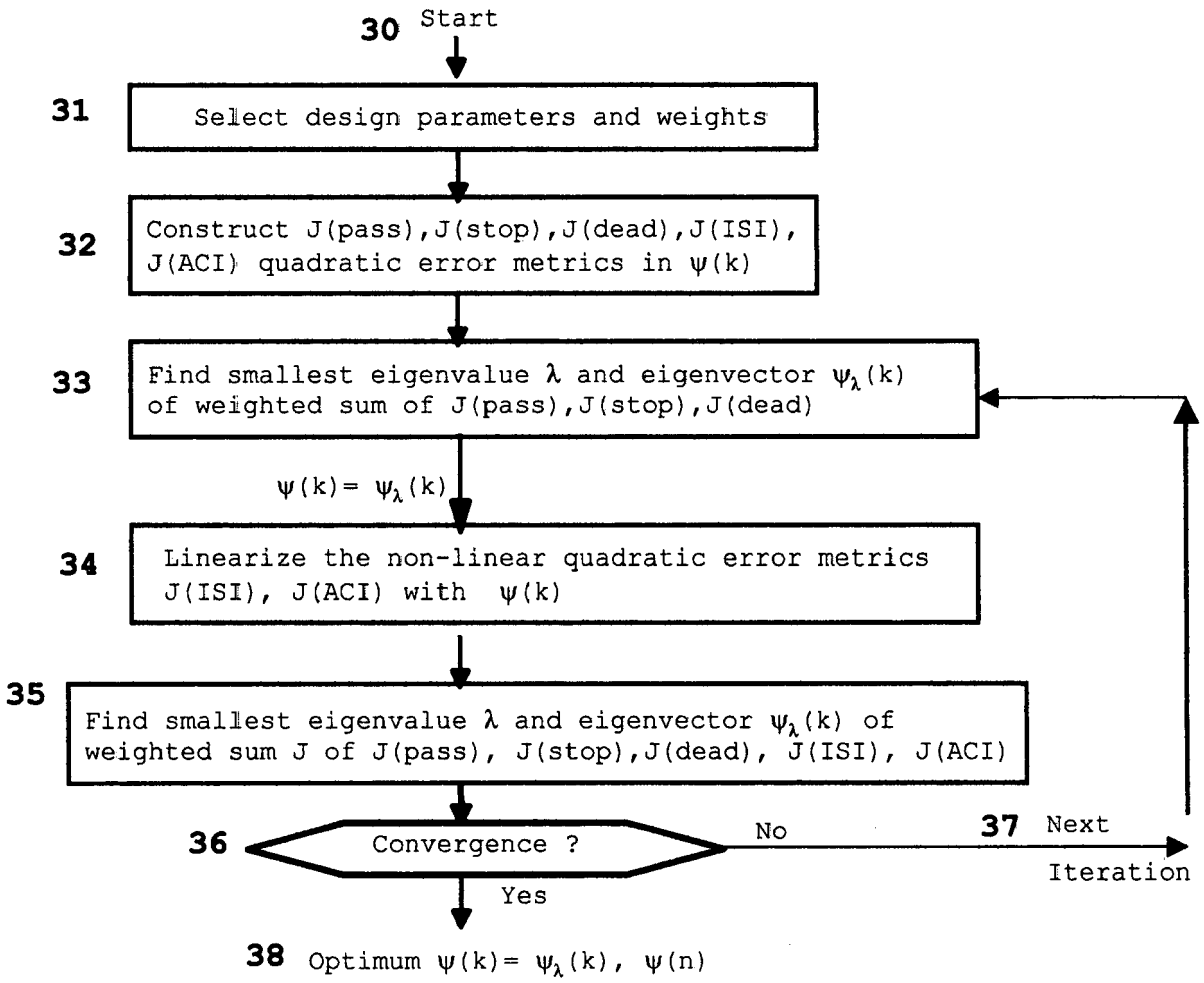


FIG. 5 Mother Wavelet: Eigenvalue Algorithm



NEW SHEET

FIG. 6 Mother Wavelet: Gradiant Search Algorithm

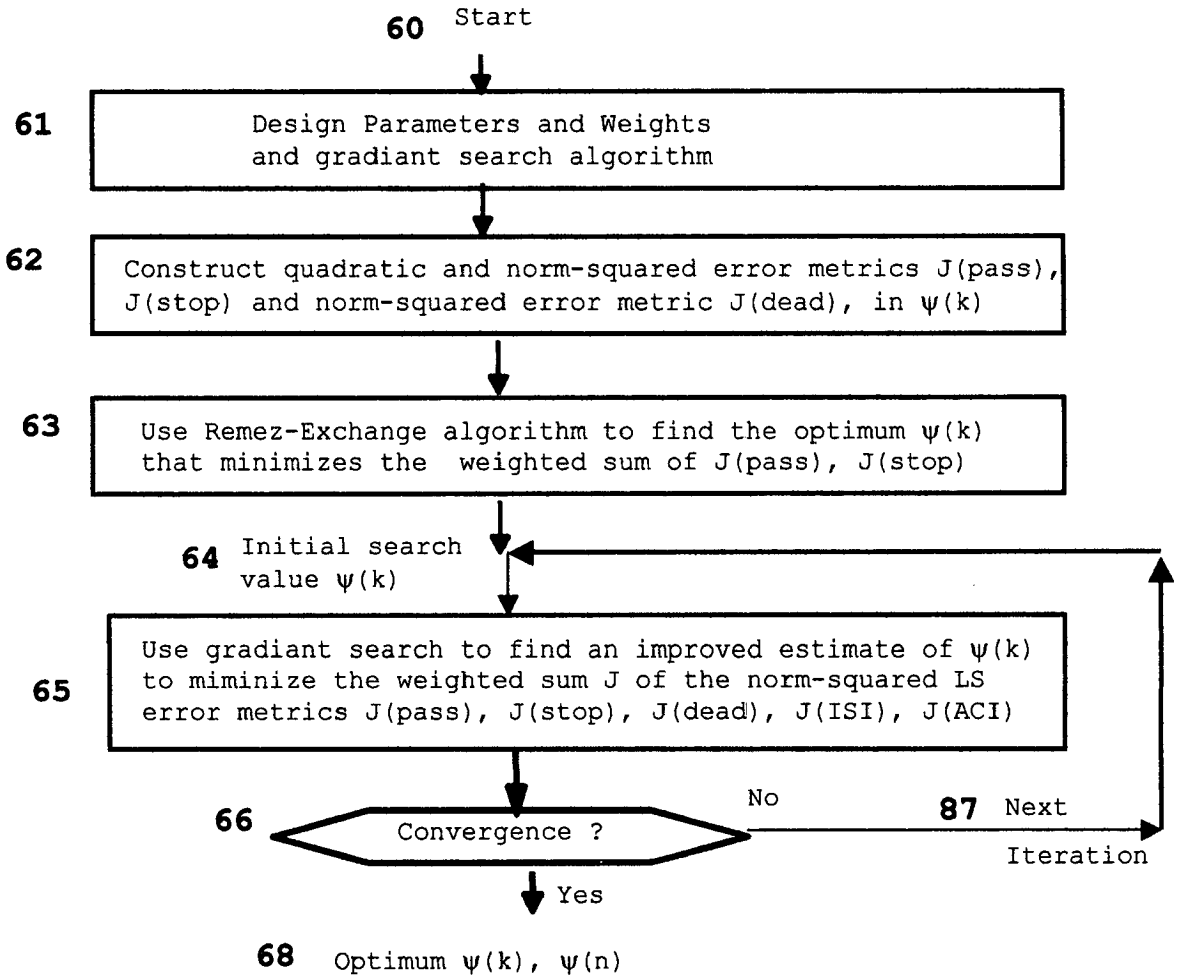


FIG. 7 Mother Wavelet: Multi-Resolution Algorithm

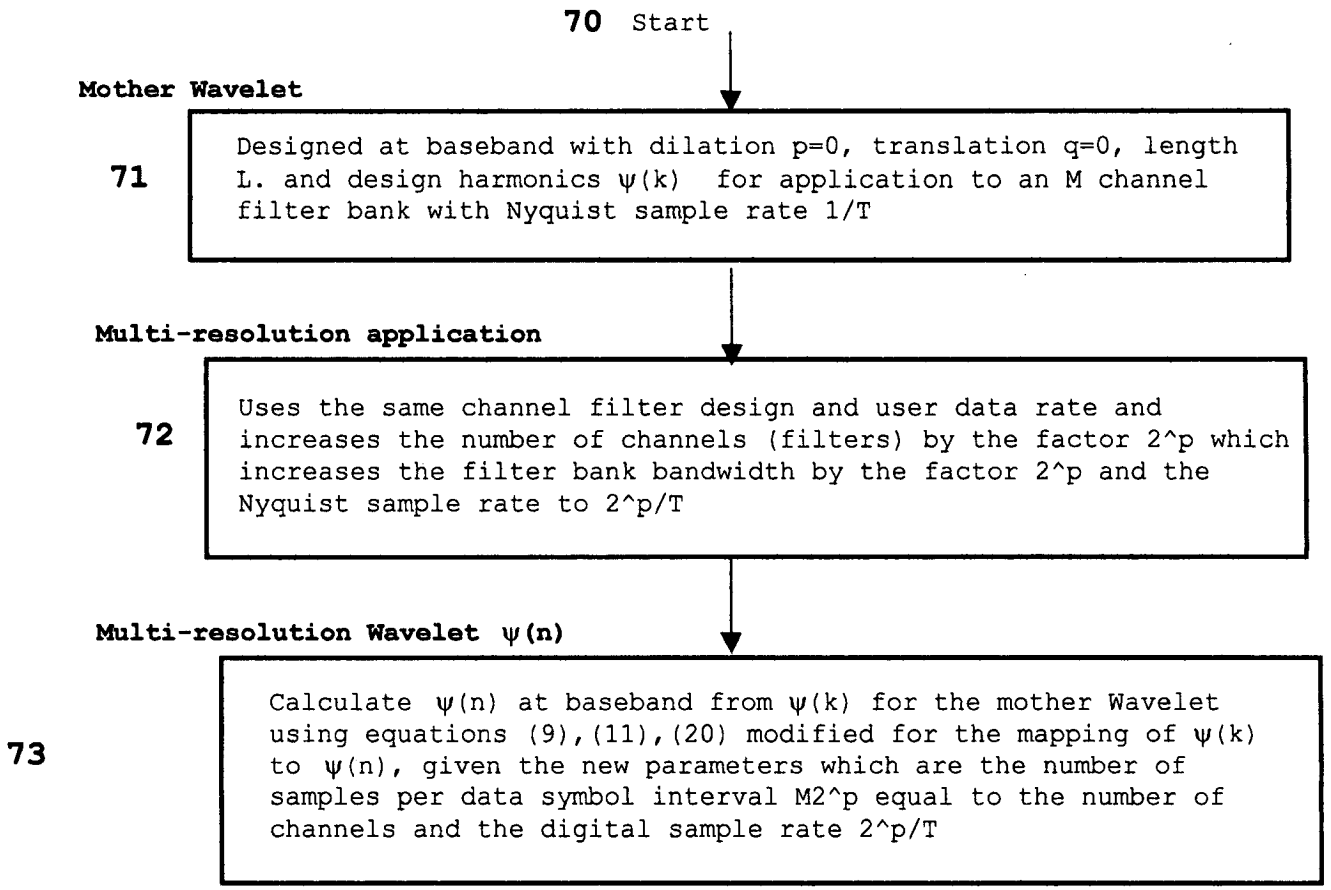


FIG. 8 PSD for New Waveform and Square-Root Raised-Cosine

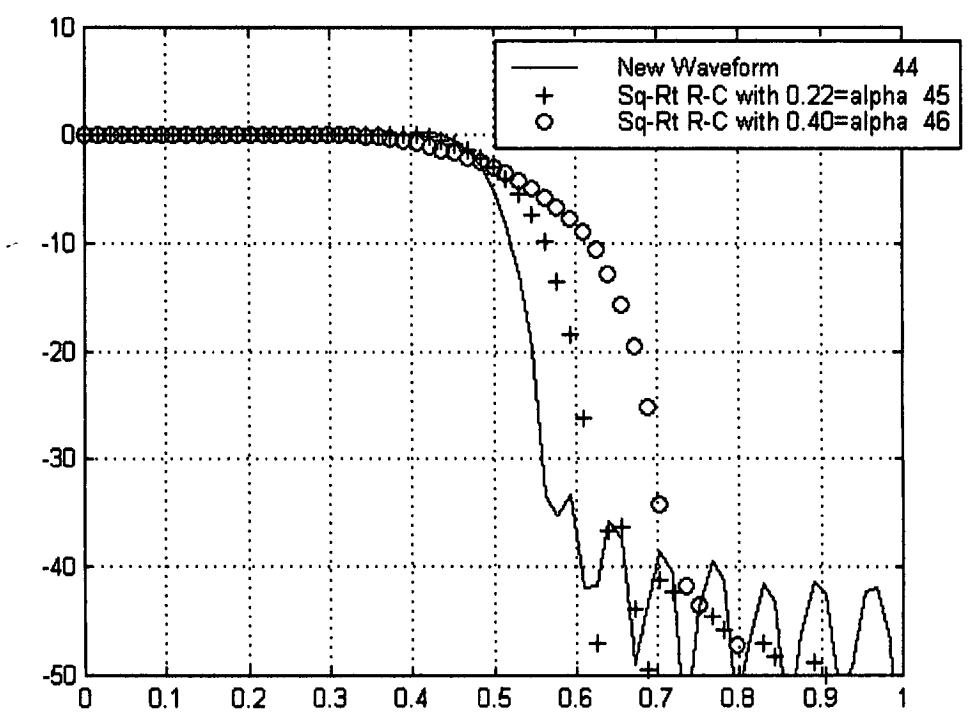
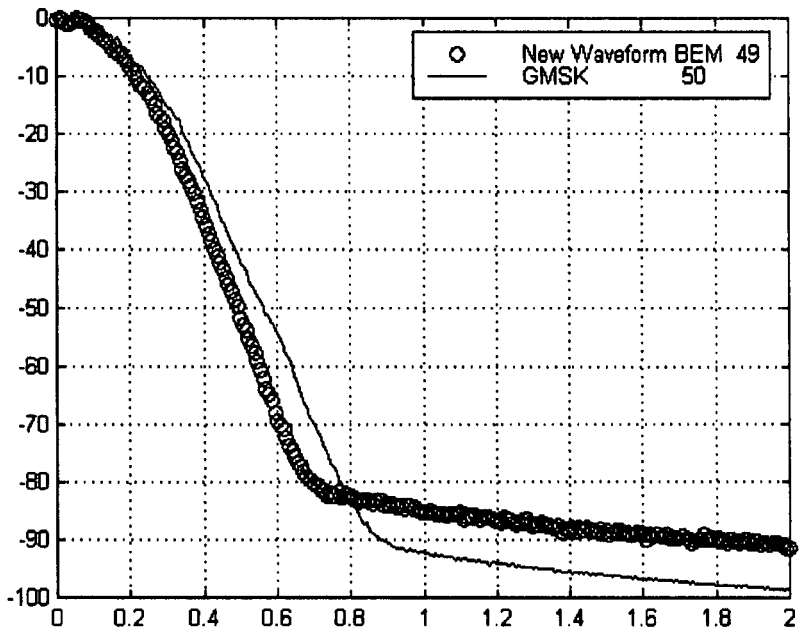


FIG. 9 PSD for New Waveform BEM and GMSK

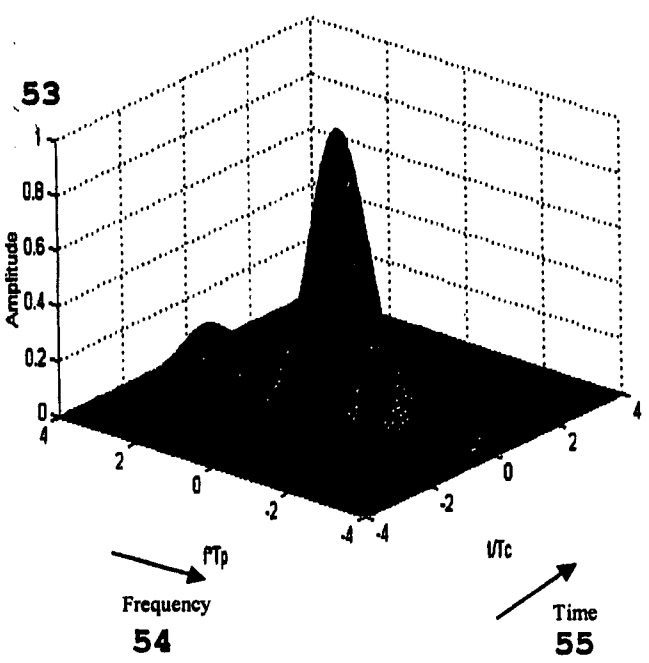
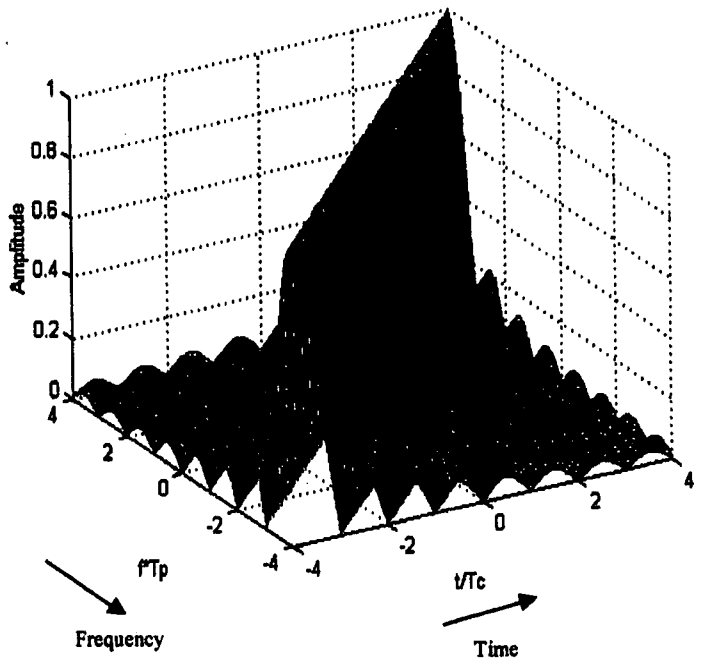


Power spectral density PSD, dB 47

Normalized frequency, bit rate 48

FIG. 10 Radar Ambiguity Functions of New Waveform and Unweighted Chirp Waveform

New Wavelet Ambiguity Function **51**



Unweighted Chirp Ambiguity Function **52**